

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS**

1. (currently amended): A method for enhancing *in vitro* synthesis of proteins and fragments thereof in a cell-free system comprising ~~containing~~ endogenous adenosine 5' phosphosulfate where ATP is required as a primary energy source, comprising enriching ~~wherein~~ said cell-free system ~~is enriched~~ with ATP-sulfurylase.
2. (currently amended): A method according to claim 1, wherein the cell free system further comprises exogenous adenosine 5' phosphosulfate.
3. (currently amended): The method according to ~~any one of~~ claim[[s]] 1 [[or 2]], wherein said *in vitro* synthesis also comprises ~~also~~ transcription of mRNA from a DNA template.
4. (currently amended): A method according to ~~any one of~~ claim[[s]] 1 [[to 3]], comprising carrying out ~~wherein~~ said *in vitro* synthesis ~~is carried out~~ in a reaction vessel as a batch reaction, semi continuously or continuously.
5. (currently amended): A method according to ~~any one of~~ claim[[s]] 1 [[to 4]], comprising adding ~~wherein~~ ATP-sulfurylase ~~is added~~ to the cell-free system at the beginning and/or during the *in vitro* synthesis or at intervals during the *in vitro* synthesis.
6. (currently amended): A method according to ~~any one of~~ claim[[s]] 1 [[to 5]], wherein the cell-free system comprises a cell-free extract prepared from cells transformed with a vector over-expressing ATP-sulfurylase.
7. (currently amended): A method according to ~~any one of~~ claim[[s]] 1 [[to 6]], comprising adapting ~~wherein~~ ATP-sulfurylase concentration ~~is adapted~~ according to the experimental conditions and the biological macromolecules to be synthesized.
8. (currently amended): A method according to ~~any one of~~ claim[[s]] 1 [[to 7]], wherein ATP-sulfurylase is present in the cell-free system at an initial concentration of at least

about 0.1 U/ml.

9. (currently amended): A cell-free system comprising ~~containing~~ components that are capable of translating messenger ribonucleic acid encoding a desired protein enriched with ATP-sulfurylase.

10. (previously presented): A cell-free system according to claim 9 comprising exogenous adenosine 5' phosphosulfate.

11. (currently amended): A cell-free system according to ~~anyone of claim~~[[s]] 9 [[or 10]] comprising all substances necessary for the translation of mRNA and transcription of mRNA from a DNA template.

12. (currently amended): A cell-free system according to ~~anyone of claim~~[[s]] 9 [[to 11]], wherein extra ATP-sulfurylase is derived from a prokaryotic organism, an eukaryotic organism, a transgenic vector, a bacterial cell that has been genetically modified, *E. coli* extract, or is purified.

13. (currently amended): A cell-free system according to ~~anyone of claim~~[[s]] 9 [[to 12]], wherein the cell-free extract enriched with ATP-sulfurylase is prepared from cells transformed with a vector over-expressing ATP-sulfurylase.

14. (currently amended): A cell-free system according to ~~anyone of claim~~[[s]] 9 [[to 13]], wherein ATP-sulfurylase is present in a concentration of at least about 0.1 U/ml.

15. (currently amended): A cell-free extract comprising ~~containing~~ components that are capable of translating messenger ribonucleic acid encoding a desired protein enriched with ATP-sulfurylase.

16. (previously presented): A cell-free extract according to claim 15 comprising exogenous adenosine 5' phosphosulfate.

17. (currently amended): A cell-free extract according to ~~anyone of claim~~[[s]] 15 [[or 16]] comprising all substances necessary for the translation of mRNA and transcription of mRNA from a DNA template.

18. (currently amended): A cell-free extract according to ~~anyone of~~ claim[[s]] 15 [[to 17]], wherein extra ATP-sulfurylase is derived from a prokaryotic organism, a eukaryotic organism, a transgenic vector, a bacterial cell that has been genetically modified, an *E. coli* extract, or is purified.

19. (currently amended): A cell-free extract according to ~~anyone of~~ claim[[s]] 15 [[to 18]] prepared from cells transformed with a vector over-expressing ATP-sulfurylase.

20. (currently amended): A cell-free extract according to ~~anyone of~~ claim[[s]] 15 [[to 19]], wherein ATP-sulfurylase is present in a concentration of at least about 0.1 U/ml.

21. (new): A method for enhancing *in vitro* synthesis of polypeptides, comprising:  
(a) providing a cell-free system comprising mRNA and adenosine 5' phosphosulfate and enriched with ATP-sulfurylase; and  
(b) translating said mRNA.

22. (new): A cell-free system for mRNA translation comprising components for cell-free mRNA translation, wherein said system is enriched with ATP-sulfurylase.